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Topflight Appointments, Weak Policies

Bush Leaves an Uneven Record on Science Issues

Despite his precision-guided instincts for mediocrity and inactivity in domestic affairs, George Bush has compiled a mixed record in his stewardship of the government's scientific and technological enterprise. On the basis of close observation, SGR scores the major elements as follows:

Good on budget support for S&T, particularly basic research.

Excellent for the professional caliber of senior S&T agency officials.

Fail on developing priorities for R&D spending and shifting research funds from the Pentagon to civilian agencies.

Reprehensible on protecting scientific integrity against political and quasi-religious intrusions.

Excellent on ceremonial nods to science—medals, speeches, etc.—oh so important to the elders of the profession.

In large measure, Bush performed as the caretaker of the

education as a major objective of his Administration, declaring himself "the Education President" (as well as "the Environment President"). Congress, in harmony with the math-and-science theme, responded by trimming NSF's research budgets to finance the initiation of promising education programs throughout the country. But the often-stated Bush goal of the US first in the world in science and math by the year 2000 holds no credibility among educators who speak frankly. Apart from an occasional speech and Rose Garden ritual with teachers and school children, Bush has displayed little zest about the educational revolution he claims to lead.

In selecting his managers of science and technology,

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University Association Head Looks Back on Decade in Washington—P.5

Reagan legacy, carrying on with the misbegotten mega-projects of that presidency: the Strategic Defense Initiative, the Space Station, and the Superconducting Super Collider. In addition, Bush proceeded with the Human Genome timetable left behind by his predecessor, and he endorsed Reagan's call for a fast-paced doubling of the National Science Foundation budget, though characteristically, Bush invested little political energy in that still elusive goal. Sensing that Bush wasn't really fired up about NSF's fiscal fortunes, Congressional Democrats lagged behind the White House in funding the Foundation.

Prodded by Congress and medical opinion, Bush put a great deal of money into AIDS research, but, pandering to the right-wing depiction of AIDS as retribution for sin, he did not deploy the authority of the Presidency in efforts against the disease. Again beholden to the right, Bush tolerated a so-called litmus test on abortion in selecting a Director for the National Institutes of Health, which led to a harmful 20-month hiatus in filling that post. In another appeasement of the right, and in the face of widespread scientific and medical opposition, Bush continued Reagan's ban on federal funding for transplantation research involving aborted fetal tissue.

More than Reagan, Bush talked up science and math

In Brief

Departing from custom, as well as from power, the Bush Administration has decided to leave a clean budget slate for its successor. Though planning for FY94 (beginning Oct. 1) had been underway for well over a year, Bush's Office of Management and Budget has scrapped all that work in favor of a simple "baseline" budget, i.e., current-year spending, plus inflation. The Clinton crew will have to take it from there, which means that the customary February start-up for Congressional appropriations hearings is likely to be delayed while the newly staffed agencies work out their budget plans.

Symbolic of the frayed relations between NIH and its overseers in the Department of Health and Human Services: Director Healy is still awaiting approval of her request to appoint four deputies, including her close aide, Jay Moskowitz, to the No. 2 spot for all of NIH. There's been no response since the request went "downtown" last January. Meanwhile, the latest amended edition of Healy's much-revised Strategic Plan was submitted to HHS on October 8. With the clock running out on the Bush Administration, HHS has responded with several questions about the Plan.

William Raub went from NIH Deputy Director to a post at the White House Science Office last year. On November 30, he moved again, this time to the newly created position of Science Adviser to EPA Administrator William Reilly, whose tenure runs to Inauguration Day.

In the often-mentioned category for Clinton's Science Adviser: Mary Good, Allied-Signal Senior VP, former Chairman of the National Science Board and current member of Bush's Council of Advisers for Science and Technology.

... Bromley Rebuilt OSTP, Revived Federal Council

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Bush adopted standards that he regrettably did not adhere to in staffing other parts of the government. There are no counterparts of Dan Quayle or Clarence Thomas among Bush's S&T appointees, though the capacious scientific community contains PhD-bearing flat-earthers and escapees from UFOs who might have been installed in high places. The major science appointees all possessed at least respectable and often outstanding credentials and relevant experience.

D. Allan Bromley, a Yale physicist, came to the post of Presidential Assistant for Science and Technology and Director of the Office of Science and Technology Policy (OSTP) with the long record of Washington science-advisory service customary for that post. The sole gap in his distinguished professional resume was filled when, following his arrival at the White House post, the National Academy of Sciences calculated that he was at last entitled to membership.

As the most visible science officer in the federal establishment, Bromley easily comes to mind in connection with whatever happens or doesn't happen in the government's science-related affairs. Appearances, however, are deceiving. OSTP is a hubbub of frantic busyness, onerous deadlines, and urgent meetings, early and late. Activity, however, is not synonymous with useful work, influence, or power, regardless of the cruel dawn-to-dusk pace at OSTP.

As a matter of fact, the great bulk of the government's S&T activities exist beyond the reach of the President's Science Adviser and his supporting staff, despite their claims of non-discussible behind-the-scenes influence with the Office of Management and Budget. The Pentagon's R&D establishment, largest in the federal government, pays virtually no heed to OSTP, nor does NIH or agricultural research, which deal directly with their supportive friends in Congress.

NASA's link to the White House is through the National Space Council, chaired by an otherwise little-occupied Vice President Quayle. When OSTP and OMB failed to rein in NASA's irresponsible spending spree on the Space Station, the House Appropriations Committee asserted itself in 1990 and became the *de facto* policymaker for space by capping the FY 1991 budget for the project at \$2.6 billion and annual growth at 10 percent through 1995.

NSF alone is under the direct influence of the White House science office—in part because it is a free-standing agency with a politically inert constituency, and therefore welcomes White House attention; and in part because it is located two blocks from the OSTP's offices in the Executive Office Building, which eases the consultative process. Little wonder, then, that NSF is putting on a Stalingrad defense against plans by the government's housekeeping agency to move the Foundation's headquarters to suburban Virginia.

Bromley was a late appointee of the Bush Administration, named to the post in April 1989, four months after

Bush's inauguration, and, for personal reasons, he didn't come to work fulltime until September. OSTP at that point was a shambles, having been neglected to the point of dissolution during the final two years of the Reagan Administration, and withering further for lack of a Director during the startup of the Bush Administration.

Bush, long acquainted with Bromley through their Yale ties, agreed to the rejuvenation of OSTP, and Bromley eventually brought the staff up to 45, making it one of the larger groups in the Executive Office of the President. Along with staff expansion, Bromley also enlivened the languishing Federal Council for Science and Technology, renaming it the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) and making it a cabinet-like body of senior federal science and technology officials.

FCCSET's main achievements consist of unprecedented inventorying of who's doing what in several S&T fields spread across many federal agencies, including global warming, materials sciences, math and science education, and computers and high-speed communications. Bromley proudly points out that prior to FCCSET's efforts, federal S&T agencies pretty much set their own agendas, with little regard for what was going on elsewhere. Under the FCCSET system, he insists, coherence is possible. But whether that translates into power, or even influence, over programs and priorities is another matter.

Testifying before a Subcommittee of the House Science, Space, and Technology Committee in April, NIH Director Bernadine Healy described FCCSET as a useful clearinghouse for information. But still lacking, she said, is "a mechanism within the Executive Branch that adequately looks at all of the priorities in an open and robust and table-thumping way."

Bromley also reinstated a commuting council of scientific wisemen at the White House, calling it the President's Council of Advisers for Science and Technology (PCAST). Inaugurated in 1990 with a three-hour meeting with Bush at Camp David, PCAST was reminiscent of the President's Science Advisory Committee (PSAC) of Eisenhower and

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New OMB Chief Cool on R&D Mega-Projects

Where are the choices going to be made within the NASA budget?... Now, I just get a little bit concerned that enough is never enough, and that choices are not going to be made. And, NASA is going to have to make choices just like we make choices on housing, just like we have to make choices in education, just like we have to make choices on nutrition, just like we have to make choices in defense and every other area. They are going to have to make those decisions. And they have got to develop some priorities. What is important? They are not going to be able to have everything funded. They are just not.

Who delivered that threatening forecast? Answer: The next Director of the Office of Management and Budget, Congressman Leon Panetta, of California, Chairman of the House Budget Committee, at a hearing in July 1991 on "Establishing Priorities in Science Funding."

A vociferous but regularly frustrated anti-deficit warrior, Panetta, as head of OMB, will wield more power and influence than he did as Chairman of a Congressional Committee with little more than an admonitory role in budget affairs.

Serving as Deputy Director at OMB will be an equally outspoken sister-in-arms against deficits, Alice Rivlin, now of the Brookings Institution, who was founding Director of the Congressional Budget Office, which tracks the budget numbers for Capitol Hill.

The Panetta-Rivlin team would be difficult to match not only in minute knowledge of the behemoth federal budget but also in the deft strategies crafted by government agencies and their constituent collaborators to

elude spending restraints.

At that 1991 hearing, held by the House Budget Committee Task Force on Defense, Foreign Policy, and Space, Panetta offered a cynical appraisal of NASA's budget tactics. Likening the Space Station to the Navy's aircraft carriers as a lure for appropriations, Panetta said that "what develops here is what I call the carrier mentality, which is that you identify a project, and that you hope that by pushing through the carrier you can then put in the destroyers and the planes and all of the other things you need to get that done. So all of the focus then goes on the \$30 billion Space Station as the kind of Cadillac that drives everything else in the NASA budget."

On the two biggest sci-tech megaprojects on the civilian side of the federal R&D budget, the Space Station and the Superconducting Super Collider, Panetta cast "no" votes. As the Director of OMB, he will be the servant of a President who expressed support for those projects during the campaign. It may be assumed that Panetta's dour view of the mega-projects must yield to the President's preferences, but when his advice is sought, there's no doubt what it will be.

The attitude of the old-line NASA bureaucracy was cogently expressed at the 1991 hearing by J.L. Thompson, who has since retired from the No. 2 post at the agency. Confronted by Panetta's assertion that, because of the Space Station's massive costs, "science is going to get screwed," Thompson replied that "science has not been screwed in NASA for a long time, and it won't for a long time to come."

... But Bromley's Congressional Welcome Was Wearing Out

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Kennedy days, a body that grows increasingly influential in the nostalgic recollections of its alumni as the years go by. But whatever the realities of PSAC, the latter-day Bush version appears to have evolved into little more than a monthly bull session among over-scheduled barons of science and high-tech industry. Bromley used to boast that Bush regularly attended PCAST meetings. But records produced in response to a law suit to open the meetings in accordance with so-called sunshine laws show that Bush attended all or part of seven of PCAST's 25 meetings between February 1990 and this past fall.

With a hearty and open personal manner, and a silver-haired professorial look that central casting might envy, Bromley was an early hit on Capitol Hill, where he stood in sharp contrast to his immediate predecessor, William Graham, a political misfit who did not conceal his contempt for the Legislative Branch. Bromley put great effort into cultivating good Congressional relations. But any Presidential Science Adviser is unavoidably cast in the role of serving

two masters, his boss and the truth, and inevitably there are conflicts between the two.

As Bromley became a familiar figure defending the Administration on various issues before Congressional committees, the ranks of his admirers on Capitol Hill began to thin. His repeated and unfulfilled predictions of substantial Japanese support for the Superconducting Super Collider enraged many Members after confidential memos from the Department of Energy came to light discounting the likelihood of Japanese support.

Until John Sununu, apostle of domestic inaction, was ousted as White House Chief of Staff, Bromley was cautious or silent about federal programs to assist high-tech industry. When Craig Fields, Director of the Defense Advanced Research Projects Agency, was shifted to a make-work job after he offended Sununu's industrial philosophy, Bromley insisted, with poker-faced sincerity, that Fields had been promoted as a reward for excellent performance.

On the Critical Technology Institute (CTI), an append-

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... NSF and NIH: A Contrast in Leadership Styles

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age to OSTP proposed by Senator Jeff Bingaman (D-New Mexico), Bromley initially echoed the White House's assertion that CTI was a needless creation. When a deal was finally struck with Congress, setting up CTI with a loose administrative link to NSF—though still reporting to the President's Science Adviser—Bromley welcomed CTI as a valuable support service for his office.

In May, on the eve of the Rio environmental summit, Senator Al Gore went into a hearing loaded for Bromley, who dutifully—and, one would guess, against his own better judgment—had become the leading scientific spokesman for Bush's indolence on global warming and related issues. In unusually harsh terms, Gore repeatedly attacked Bromley, declaring, among other barbs, that Bromley "has not well served the country, the President, or future generations" [SGR, June 15: "How Bush's Science Aide Got Gored on Capitol Hill"].

Bromley was silent about his plans before the election, but it was widely assumed that he didn't intend to stay on for a second term.

Bush's most controversial appointee in the science area is NIH Director Bernadine Healy, about whom the science-policy grapevine resonates with highly divergent opinions. What must be noted is that Director Healy is strong minded and has little patience for disagreement. She also tends to play rough, as she did in bashing the now-defunct Office of Scientific Integrity when its investigators reported misdeeds in investigations involving NIH's own Robert Gallo and a co-author of Nobelist David Baltimore. Healy said she was concerned about the investigators' tactics, not their findings, but her performance in these matters has inspired considerable doubt. On a slew of other issues, too, Healy has offended many members of the NIH family, particularly for her abrupt dismissals of several senior figures on the Bethesda campus.

But what must also be noted is that prior to her arrival, NIH had been very lightly led from the center for nearly a decade, and had slowly sunk into bureaucratic senescence. Its managerial ineptitude was masked by generous Congressional appropriations and an unskeptical cheering section in the press. But, with or without Healy, a reckoning was bound to come.

In biomedical circles, the Healy program of reform for NIH has become colored by her imperious manner, the doubtful wisdom of her slugging matches with Rep. John Dingell, Congress's preeminent brawler, and rumors of boundless ambition beyond the Directorship of NIH. Some members of the NIH family are appalled that Healy met with Ross Perot when he was considering vice presidential prospects for his ticket. Healy's press office initially weaseled about reports of the meeting, but, finally acknowledging that it occurred, insisted that the Perot-Healy discussions were almost entirely confined to biomedical and health-care

issues [SGR, December 1: "Healy and Perot: Part II"].

The smoothest-running science agency in the outgoing Administration is NSF, headed by Walter Massey, a Bush appointee who was formerly Vice President of the University of Chicago for Research and the Argonne National Laboratory. An experienced and reassuring administrator, Massey has evoked none of the resentments that surround his counterpart at NIH. Just two years into a six-year appointment, Massey is a good prospect for remaining as head of NSF in the Clinton Administration, while Healy's future is unknown. In many respects, NIH provides a less-congenial setting for leadership than NSF. The biomedical community is more prone to hysteria than the clientele served by NSF. Massey is directly responsible to a friendly, supportive board, while Healy must deal with a churlish pack of political appointees at the Department of Health and Human Services.

Even so, on a comparable issue, long-term strategic planning, Healy has aroused deep suspicions within the biomedical community, despite open meetings and widely based consultation. Massey inspired some fears in the NSF community of basic researchers when he advocated a greater industrial role for the Foundation as part of his strategic planning. But much of the anxiety was dispelled when, with Massey's collaboration, the National Science Board appointed a Commission of elder statesmen of research and education to assess the future of NSF. As might be expected, they recommended that NSF should mainly stick to its traditional roles in basic science and education, though not to the exclusion of further, carefully selected industrial ties.

Among the cabinet departments with important scientific and technical components, two have been under inept Secretaries throughout the Bush Administration, but the S&T agencies in their domain mainly suffered from lost opportunities, rather than political mishandling.

The Interior Department, home of the US Geological Survey, the Bureau of Mines, and the National Park Service, has endured the overwhelmed and befuddled Manual Lujan, a retiring Congressman who, more than anyone else, was astonished when Bush inexplicably appointed him Secretary of Interior.

At the Department of Health and Human Services, Secretary Louis Sullivan early on capitulated to a right-wing cabal installed by the White House to keep him quiet on health-care reform and abortion and related issues. Washington medical circles assume that Sullivan knows better and, therefore, he is regarded with great disdain, perhaps the greatest of any of Bush's cabinet officers.

At the Department of Energy, Secretary James Watkins has performed ably, and with some success in introducing public truthfulness into an organization habituated to secrecy and deception since its World War II origin as builder of the bomb. However, the basic-research program is being

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A Decade-Long Perspective on Science-Policy Trends

In 10 years as President of the Association of American Universities (AAU), Robert M. Rosenzweig refashioned the previously modest organization into the voice of big academic science in Washington, looked to by Congress and the Executive agencies as an interest to be considered in developing policy and priorities. A political scientist (Yale Phd 1956), Rosenzweig served as Vice President for Public Affairs at Stanford from 1974-83, when he moved to the AAU, which now comprises 56 American and two Canadian universities. He is voluntarily stepping down next month to return to California, where he's setting up as a consultant. His successor at the AAU is Cornelius J. Pings, Provost of USC. Rosenzweig spoke to SGR Editor Greenberg on Dec. 9. Following is the text, transcribed and edited by SGR.

Q. In its votes on money, the last Congress pressured science to do something for the economy.

Rosenzweig. There are several things that have happened that give me pause. One is the Senate language in the NSF appropriation: Get busy and show us some results. We've given you all this money and we still have problems. What's the matter with you?

[Rep.] George Brown's report [*Report of the Task Force on the Health of Research*, available from: Science, Space, and Technology Committee, Press Office, US House of Representatives, Washington, DC 20515; tel. 202/225-3359] pushes in the same direction. So does [NSF Director] Walter Massey's Strategic Planning Initiative.

And then there's the NIH Strategic Plan. It remains in limbo, but I was absolutely baffled by one aspect of it. The most successful political act in town has been NIH. And the reason it's been successful is because it promises health for everybody, or if not health, at least the cure of disease if you

get sick. You can't have a better political justification than that. And in addition to that, it produced the biotechnology industry. Without a plan! Now, why the hell would you undermine your basic justification by adding to it a very problematic promise to produce economic benefits? It never made any sense to me.

Q. Why do you think [NIH Director] Healy produced this document?

Rosenzweig. I assume she thought that NIH needed to be shaken up. That it had become set in its ways and had about come to the end of its capacity to generate appropriations at the level that was needed. And that some demonstration that it was thinking about the future and where it might go was required in order to reenlist a base of political support. That wasn't a foolish thing to think. But the process was cumbersome and tried hard to give the appearance of wide consultation without the substance of wide consultation.

Q. The NIH management talked to a lot of people.

Rosenzweig. Real consultation consists of talking to people and allowing what they say to influence your thinking, if there's merit to what they say, and accepting some ideas if they're strongly held by people who are important to you. I don't think that describes the process at NIH.

Q. Do you think they wrote the Plan and then went out and said, "What do you think we should put in the Plan?"

Rosenzweig. Something like that.

Q. The last Congress did a turnaround and provided little or no growth for NSF and NIH. Is this an odd event or is there something deeper at work here?

Rosenzweig. Oh, there's something very much deeper at work. In the immediate sense, it's a function of the Budget Enforcement Act [which put tight controls on appropriation]

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Scorecard on Bush

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eaten up by the Supercollider, and Watkins has failed to do anything to curb the damage, which is bound to increase.

The Commerce Department remains the catchall of research-related agencies that aren't located elsewhere—the National Institute of Standards and Technology, the National Oceanic and Atmospheric Administration (which includes the Weather Service), the Patent and Trademark Office, and the National Technical Information Service.

Like their predecessors, the two Commerce Secretaries of the Bush Administration, Robert Mosbacher and Barbara Franklin, seemed to be only dimly aware of these elements in their department. NIST, one of the government's oldest and most distinguished research organizations, is also the only government agency with a specific mandate to assist industry. The world-traveling Bush has often touted his Administration's contributions to industrial competitiveness, but has never visited the NIST main campus, 20 miles

from Washington.

Appointed in April, Administrator Daniel Goldin has been shaking up NASA as though he's just at the beginning of a long reign. Clinton might ask him to stay, but many consider that doubtful. In any case, as Goldin has often said publicly, NASA is a dreadful mess of misguided priorities and entrenched bureaucracies—incurable in just a few months.

As noted at the outset, Bush's performance in science and technology is mixed. He never rose to innovative brilliance, and unfortunately, in biomedical matters, he stooped to satisfy irrational demands. Despite this, he radiated a congeniality to science, handing out medals in Rose Garden rituals, delivering an address at the Academy, and attending a swearing-in ceremony for Director Healy at NIH.

Mainly, however, as with so much else on the domestic front, he steered a middle course and maintained the status quo, which means he ignored the profoundly difficult financial problems piling up in science. The best that can be said is that it could have been worse.—DSG

... Doubts Value of Pushing Academic-Industry Ties

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tions]. This year, the "firewalls" [between domestic, defense, and foreign spending] come down. So, the Defense Department is the most obvious place for the new Administration to take it from if they want to increase research spending. My sense is that, to the extent that they're successful in doing that, the usable money that they get from it is not going to go primarily to university research. It's going to go to various technology fixes. New SEMATECHs, technology centers around the country—50 or 100, or whatever they're talking about now, that sort of thing.

I think there's a strong case to be made for more money for basic research. The new Administration sort of makes a pass at basic research—yeah, we understand that basic research is important. But then they say, let's talk about something important. And what they want to talk about is stronger connections between universities and business, increasing the effectiveness of technology transfer.

Q. There's been talk about that for at least 10 years.

Rosenzweig. Putting a lot more money into technology transfer from universities to industry isn't going to make it work a lot better. Representing that as a significant part of the solution to America's economic problems is dishonest, or disingenuous and is likely to produce great disillusionment, unless everybody gets very lucky, and the economy simply takes off. What I fear is that we may make the same mistake with universities that corporations made in the '70s and the '80s during the mergers and acquisitions mania, in which it was thought that the way to riches and security in the corporate world was to diversify, to add as many different functions as you could buy. And it turned out that when you get yourself into businesses that you don't know anything about, you lose money. And more than that you lose the capacity to do what you were good at in the first place. I have an uneasy feeling that that's the direction in which universities are already being pushed and may be pushed more strongly and that the capacity to resist is very weak when there is money attached to the offer.

Q. Do you see them getting into bed with corporations for purposes that are not in harmony with their basic role?

Rosenzweig. I think some universities are doing things that they wouldn't have done 10 years ago and that they would have felt was inappropriate 10 years ago. Times change. And I'm not arguing simply for pure research. People expect results. I think the evidence is very strong that the social and economic benefits from basic research have more than paid the investment that's been put into it, but in ways that nobody could have predicted at the time. But when you start linking results to the expenditure of money directly, you run into trouble, because that's something that nobody can promise.

Q. Your fight against earmarking [Congressional appropriations for specific universities] took up a lot of time here. Why did you regard that as so important?

Rosenzweig. I think I was quite naive when that issue first broke out. Columbia University and Catholic University were the first two significant institutions to be identified with earmarks.

Q. Both members of this Association.

Rosenzweig. That's right. Back in 1983, I thought that we could dampen that activity, if not close it off, by articulating a sensible, rational, and principled policy, and getting people to adhere to it on the record, and appealing to the experience and reason and policy sense of members of Congress. I couldn't have been more wrong. What was actually happening was that we were at the beginning of a period in which the research university was coming to be seen as a source of economic benefit, in quite local, constituency-based terms. Once politicians came to believe that, persuaded, of course, by the representations of the institutions in their districts, research came to be essentially no different from a dam or a post office or a highway.

Q. Jean Mayer [former President of Tufts University] and others have said that the opposition to earmarks comes from those universities that got in there first and set the rules to assure that they keep getting more.

Rosenzweig. I could argue that that's a self-serving argument of those who haven't done enough work on their own with their own local constituencies to develop the capacity to compete successfully. Columbia, for example, got into the earmarking business on that one project [a chemistry building] precisely because they hadn't, through policy and management deficiencies in their own institution, taken advantage of the opportunities that were there. They had slipped. They had very good chemists and they didn't have the facilities to house them so they could do their work. They were at risk of losing their faculty.

Q. Earmarking, nonetheless, has become a growth industry—\$1 billion a year or something close, according to the latest estimates. There's apparently no way of turning it off.

Rosenzweig. Probably not. There are people who will try, but I'm skeptical about the possibility of stopping it.

Q. Then the economically sensible response of those in the system is to jump in and do it, too.

Rosenzweig. And, increasingly, we may see that happen. On the other hand, it's important to maintain resistance, because, as bad as it is now, it would be even worse if it were twice as large.

Q. There came a point where, after expressing great concern about earmarking, you muted your position.

Rosenzweig. Yes. A very senior Member of Congress explained to me once why I couldn't beat him on this issue. And that was because he had the ability, as he demonstrated to me with a couple of lists that he had, to move people from one list to another. One list was Members who were going to get what they wanted and the other list was Members who weren't going to get what they wanted, but still wanted it.

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... Universities Have Lost "Presumption of Virtue"

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And he said, "I'm going to win." And I said, "Yes, sir."

Q. Has public and political confidence in universities been eroded by the indirect-cost disputes in combination with episodes of scientific misconduct?

Rosenzweig. What all of this has done has been to remove the presumption of virtue that universities had for a long time in this society. People have awakened to the fact that, while it's true that these institutions do a lot of good things, it's also true that they're populated and run by human beings with all of the weaknesses and fallibilities and frailties that human beings have. Which means that they screw up. I think that the basic belief of the American people in higher education is as strong as it ever was, maybe even stronger. Maybe for the wrong reasons. And I think that's true of politicians, too. They wouldn't care about where that money went as much as they do if they didn't think these were important institutions.

Q. The role of foreign money in American universities has been getting a lot of attention.

Rosenzweig. I see a lot of agitation coming because there's political potential in it.

Q. Is there substance to the concerns?

Rosenzweig. Very little, I think. I don't see any problem at all with the Japanese government or Japanese corporations endowing professorships at MIT. If General Motors can endow a professorship at MIT without having it assumed that the occupant of that chair is an apologist for General Motors, I don't see why Sony can't do the same thing.

Q. A lot of people feel we're in an economic war against Japan and they doubt that the Japanese are endowing chairs entirely out of philanthropic motives.

Rosenzweig. They want good public relations.

Q. They also want a window on MIT.

Rosenzweig. Do they get that?

Q. They probably get more access than if they hadn't endowed a chair.

Rosenzweig. I don't think by virtue of endowing chairs. I think they get access through the corporate affiliates programs. They get access if they actually sponsor research. I took a look at patent policies. The law requires that patents that are generated from government-sponsored research be offered first to American companies, before they can be licensed abroad. So far as I can tell, universities abide by that. The problems they have are the result of the unwillingness of American companies to invest in what's necessary to take a patent, which frequently is in very raw form, and bring it to market. Japanese and Korean and Taiwanese companies are willing to do that.

Q. A nasty relationship has developed between Congressman Dingell and certain aspects of academic science. What do you think is going on there?

Rosenzweig. I think John Dingell is being John Dingell. He's not treating us any worse than he treats anybody else he

gets up there. We're just not used to it.

Q. He says that what sets him off is behavior on the part of the academic community that's inappropriate and perhaps illegal.

Rosenzweig. I know. The two areas in which he has been most active are [scientific] fraud and contracting abuses—indirect costs, which in his world is a contracting abuse and that's why he gets into it. I've always thought that the fraud issue was exaggerated in substance, that is to say, you can't disprove what you can't see, that the cases that we've seen, that he and others have made so much of, are not representative cases. Still, I'd have to say that in the area of fraud and in the area of conflict of interest, institutions have not been sufficiently sensitive to what's changed in their world. So, while it was a hard lesson to learn, and some otherwise good and in some cases blameless people got badly damaged, maybe that was the price that had to be paid for not attending to our own business sufficiently.

I've never felt that John Dingell had any particular malice toward universities. I think he and his staff just have a rather sour disposition toward the world, and they think it's full of a bunch of crooks. Their gaze happened to turn toward this bunch of crooks, as they see it. And so they gave us hell. I don't see any signs of any further interest on his part in the indirect-cost issue. He seems to be reasonably satisfied that the steps that have been taken are satisfactory. He may now turn, as we hear, to conflict of interest, and I have no doubt that he can find cases every bit as egregious as the Stanford [University] yacht [which figured in hearings on indirect-cost abuses]. Maybe worse. And then there will be another circus, if he chooses to make it that.

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IN PRINT: Environment, Foreign Aid, Biotech, Etc.

The publications listed are obtainable as indicated—not from SGR.

Environmental Research and Development: Strengthening the Federal Infrastructure (143 pp., no charge), from the Carnegie Commission on Science, Technology, and Government, another contribution to the popular pastime of reorganizing the federal government, with the focus on the dozen-plus federal agencies that, together, spend some \$5 billion annually on environmental R&D. Tidy 'em up, says the Commission's Task Force on the Organization of Federal Environmental R&D Programs, co-chaired by Robert W. Fri, President of Resources for the Future, and Washington's senior science-advisory veteran, H. Guyford Stever. The main recommendations include folding the moribund Council on Environmental Quality into the catatonic White House Office of Environmental Quality, with the Director of the latter elevated to the rank of Assistant to the President for Environmental Affairs. Meanwhile, a new organization, the US Environmental Monitoring Agency would be created by combining the National Oceanic and Atmospheric Administration with the US Geological Survey, with close ties to NASA. The existing EPA would remain intact, but its 12 laboratories would be consolidated into separate groups focused on ecology, environmental monitoring, environmental engineering, and health effects. At the same time, EPA would establish six environmental research institutes, linked to academic and non-government organizations.

Also from the Carnegie Commission: **Partnerships for Global Development: The Clearing Horizon** (129 pp., no charge). From the bifurcated title through its muddy text, it is often difficult to discern the intended meaning of this document, but it seems to carry suggestions for updating and rejuvenating US assistance to developing nations, with science and technology designated "a linchpin in the efforts to achieve most of the world's social and economic goals." The report observes that "In a torrent of events, the ice of post-World War II politics has broken and been carried away." It notes, too, that "The stakes are high" and that "The sweep of events has revealed a clearing horizon, and cooperative global development can now be the course to worldwide stability and prosperity." The report was produced by the Carnegie Commission's Task Force on Development Organizations, Jimmy Carter, Chairman, under the guidance of the Commission's International Steering Group, chaired by Rodney W. Nichols, Executive Officer of the New York Academy of Sciences, who also served as Vice Chairman of the Task Force. Among the recommendations: creation of a National Action Roundtable for International Development, "with balanced representation from the private, governmental, and independent sectors."

Order from: Carnegie Commission on Science, Technology, and Government, 10 Waverly Place, New York, NY 10003; tel. 212/998-2150.

SGR Holiday Schedule

The next issue of *Science & Government Report* will be published January 15, 1993.

Biotechnology Legislation Enacted or Considered in the 102d Congress: Current Status and Future Prospects (70 pp., no charge; available in January), from the Industrial Biotechnology Association, prepared for its members, a review of Congressional activities in 1991-92 concerning patents, pesticide regulation, pharmaceutical issues, health-care reform, animal welfare, etc., plus a self-congratulatory review of the Association's lobbying feats.

Order from: Industrial Biotechnology Association, 1625 K St. NW, Suite 1100, Washington, DC 20006; tel. 202/857-0244.

Educating Medical Students (61 pp., no charge), from the Association of American Medical Colleges (AAMC), another stab at medical-education reform, about which the report notes "a disturbing reality: over the last 60 years, most medical schools have done little to correct the major shortcomings in the ways they educate their students, even though these deficiencies have been documented repeatedly." (Cited are 11 reform proposals issued between 1932 and 1986 by various organizations.) Among the AAMC's proposals: establishment of an "educator track" for basic science and clinical teaching, direct financial support for teaching faculty in place of income derived from clinical services, and greater emphasis on instruction in computer-based literature searches. Not explained is why reform might fare better today than it has over the past 60 years. The AAMC comprises all 126 US medical schools and 16 in Canada.

Order from: Association of American Medical Colleges, Section for Educational Programs, 2450 N St. NW, Washington, DC 20037-1126; tel. 202/828-0665.

Measuring Up: Prototypes for Mathematics Assessment (166 pp., \$10.95 each, plus \$4 shipping for one copy, 50 cents each for more), from the Mathematical Sciences Education Board of the National Academy of Sciences, a prototype fourth-grade math curriculum linked to the development of new testing techniques. The commonly used tests, says the report, "continue to stress routine, repetitive, rote tasks, instead of offering children opportunities to demonstrate the full range of their mathematical power, including ... communication, problem solving, inventiveness, persistence, and curiosity." The prototype curriculum, consisting of 13 lessons, has been tested in several school systems, but the report notes it is still under development.

Order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800/624-6242; in the Washington, DC area: 202/334-3313.

